



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/511,144

10/14/2004

Graeme R Hume

21854-00049-US1

1983

30678

7590

04/01/2008

CONNOLLY BOVE LODGE & HUTZ LLP

1875 EYE STREET, N.W.

SUITE 1100

WASHINGTON, DC 20036

EXAMINER

NICHOLS, CHRISTOPHER S

ART UNIT

PAPER NUMBER

4191

MAIL DATE

DELIVERY MODE

04/01/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/511,144	Applicant(s) HUME, GRAEME R	
	Examiner CHRISTOPHER S. NICHOLS	Art Unit 4191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 14 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/14/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

VERTICAL MOULDING OF CONCRETE

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 is indefinite because it recites both a product and a process, which covers more than one than one statutory class of invention. A single claim which claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph. *IPXL Holdings v. Amazon.com, Inc.*, 430 F.2d 1377, 1384, 77 USPQ2d 1140, 1145 (Fed. Cir. 2005); *Ex parte Lyell*, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990) (claim directed to an automatic transmission workstand and the method of using it held ambiguous and properly rejected under 35 U.S.C. 112, second paragraph).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hume (US 6,284,172) in view of Gruber et al. (EP 545346 A1).

Regarding claim 1, Hume teaches a method of forming concrete articles (see column 2 line 30-31) in a vertical mold (see Fig. 1 and Fig. 1a-1h) in which the concrete mix is pumped into the mold from the bottom of the mold (column 6 line 57-59). Depending upon the concrete mix parameters, the pumping pressures may cause segregation resulting in an excess of water (carrying cement and other fine particles including sand) on top of the concrete as it rises in the mould cavity (see column 6 line 59-63). The escape of the material carried in this water is prevented via the end cap arrangements (see column 6 line 63-65). Water is drained through drain tubes to a collection manifold and discharged through a discharge pipe for recycling (see column 7 line 11-13). However, Hume is silent regarding closing the drain tubes to inhibit the segregation of the water, which maintains a homogenous viscosity as the concrete mix rises in the mold.

Gruber et al. teach using a pipe for dewatering (draining) during the compaction of fresh concrete or similar mixtures, especially for the prefabrication of large concrete elements, for example for construction of living accommodation (see Abstract). A control slide pipe (see Fig. 2 at 4) is arranged in the filter pipe (see Fig. 2 at 3), bears on the inside wall of the filter pipe and can be displaced along the axis of the pipe and can be pulled out through the shuttering (see Fig. 2 at 1) (see Abstract). By means of the control slide pipes, the sequence and degree of dewatering (draining) can be adjusted in sections to the shape of the concrete element (see Abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to inhibit the segregation of the water by modifying the drain tubes in the molding method by Hume, because Gruber et al. teach that controlling the dewatering (draining) creates a very compact, virtually pore-free structure, highly durable concrete article (see Abstract).

5. Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hume (US 6,284,172) in view of Gruber et al. (EP 545346 A1).

Regarding claim 2, Hume teaches providing a mold liner having drainage tubes (see Fig. 2b at 20) to allow water to be removed from the wet concrete (see column 7 line 11-13). An annular tapered reinforcement cage (see Fig. 1b at 2) can be positioned in the mould cavity (see Fig. 1b). Concrete mix is pumped into the mold from the bottom of the mold (column 6 line 57-59). Depending upon the concrete mix parameters, the pumping pressures may cause segregation resulting in an excess of water (carrying cement and other fine particles including sand) on top of the concrete as it rises in the mould cavity (see column 6 line 59-63). The escape of the material carried in this water is prevented via the end cap arrangements (see column 6 line 63-65). Water is drained through drain tubes to a collection manifold and discharged through a discharge pipe for recycling (see column 7 line 11-13). However, Hume is silent regarding preventing water from leaving the drainage tubes during the stop of filling the mold with wet concrete.

Gruber et al. teach using a pipe for dewatering (draining) during the compaction of fresh concrete or similar mixtures, especially for the prefabrication of large concrete elements, for example for construction of living accommodation (see Abstract). A control slide pipe (see Fig. 2 at 4) is arranged in the filter pipe (see Fig. 2 at 3), bears on the inside wall of the filter pipe and can be displaced along the axis of the pipe and can be pulled out through the shuttering (see Fig. 2 at 1) (see Abstract). By means of the control slide pipes, the sequence and degree of dewatering (draining) can be adjusted (prevented) in sections to the shape of the concrete

element (see Abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to prevent water from leaving the drain tubes in the molding method by Hume, because Gruber et al. teach that controlling the dewatering (draining) creates a very compact, virtually pore-free structure, highly durable concrete article (see Abstract).

Regarding claim 9, Hume in view of Gruber et al. as applied to claim 2 above teach a concrete molding method for producing a long concrete article. The concrete article made by Hume in view of Gruber et al. is the same as the article claimed in the present application. “[T]he lack of physical description in a product-by-process claim makes determination of the patentability of the claim more difficult, since in spite of the fact that the claim may recite only process limitations, it is the patentability of the product claimed and not of the recited process steps which must be established. We are therefore of the opinion that when the prior art discloses a product which reasonably appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or section 103 of the statute is eminently fair and acceptable. As a practical matter, the Patent Office is not equipped to manufacture products by the myriad of processes put before it and then obtain prior art products and make physical comparisons therewith.” *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972).

6. Claims 3-4 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hume (US 6,284,172) in view of Gruber et al. (EP 545346 A1).

Regarding claim 3, Hume teaches a vertical mold for forming concrete articles (see Abstract) having (1) an upright core member (see Fig. 1 at 3) that is moveable into and out of a molding cavity and forms an annular molding zone (see Fig. 6 at 37) between the core member

and the outer mold sections (see Fig. 1a at 1); (2) a mold liner having drainage tubes (see Fig. 2b at 20) with vertical holes (see Fig. 4 at 19) to allow water to be removed from the wet concrete (see column 7 line 11-13). However, Hume is silent regarding a means associated with the drainage tubes to prevent water from leaving during the filling of the mould cavity.

Gruber et al. teach using a pipe for dewatering (draining) during the compaction of fresh concrete or similar mixtures, especially for the prefabrication of large concrete elements, for example for construction of living accommodation (see Abstract). A control slide pipe (see Fig. 2 at 4) is arranged in the filter pipe (see Fig. 2 at 3), bears on the inside wall of the filter pipe and can be displaced along the axis of the pipe and can be pulled out through the shuttering (see Fig. 2 at 1) (see Abstract). By means of the control slide pipes, the sequence and degree of dewatering (draining) can be adjusted (prevented) in sections to the shape of the concrete element (see Abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the pipe which prevents water from leaving the drain tubes in the mold by Hume, because Gruber et al. teach that controlling the dewatering (draining) creates a very compact, virtually pore-free structure, highly durable concrete article (see Abstract).

Regarding claims 4 and 6-7, Gruber et al. teach using a filter pipe during the compaction of fresh concrete or similar mixtures, especially for the prefabrication of large concrete elements, for example for construction of living accommodation (see Abstract). A control slide pipe (see Fig. 2 at 4) is arranged in the filter pipe (see Fig. 2 at 3), bears on the inside wall of the filter pipe, i.e. pressurized against filter pipe to prevent water from leaving filter pipe, and can be displaced along the axis of the pipe and can be pulled out through the shuttering (see Fig. 2 at 1) (see Abstract). By means of the control slide pipes, the sequence and degree of dewatering

(draining) can be adjusted by valves (see Fig. 2) in sections to the shape of the concrete element (see Abstract).

7. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hume and Gruber et al. as applied to claims 3-4 and 6-7 above, and further in view of Hanford (DE 2642010A).

Regarding claims 5 and 8, Hume in view of Gruber et al. teaches every claimed limitation except incorporating one way valves spaced apart in the drainage tube. Hanford teaches a mold liner containing numerous valves that are normally closed (see Abstract). Therefore, it would have been obvious to one of ordinary skill of the art to employ numerous valves in the drain holes of the mold by Hume, because Hanford teach that utilizing valves permits the passage of water but not the fine particles in the slurry (see Abstract).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hume (US 4,996,013) discloses a method for rapid molding of elongate concrete articles. Machavaria (SU 1276510A) teaching a hollow concrete column with a tapered mandrel used for draining a concrete mold.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. Nichols whose telephone number is (571) 270-3969. The examiner can normally be reached on Monday thru Thursday 7:30 AM to 5:00 PM EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Dah-Wei Yuan can be reached on (571) 272-1295. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/Christopher S. Nichols/
Examiner, Art Unit 4191**

**/Dah-Wei D. Yuan/
Supervisory Patent Examiner, Art Unit 4191**